

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method of decreasing the time necessary to correlate with incoming signals from a base station in a wireless communication system, comprising:

determining a PN offset for the base station;

identifying a current PN offset;

identifying a subsequent PN offset, the subsequent PN offset being dependent on the PN offset for the base station; and

using a PN mask to jump from the current PN offset to the subsequent PN offset.

2. (Currently Amended) A method for generating a pseudo-random number (PN) sequence used to search for a transmitted signal in a wireless communication system, comprising:

determining a PN offset associated with a transmission source of the transmitted signal to be searched;

determining a current phase of the PN sequence;

determining a new phase for the PN sequence ~~where for~~ a new search for the transmitted signal ~~is to be started~~, the new PN phase being dependent on the PN offset associated with the transmission source;

determining a difference between the new and current PN phases;

selecting a PN mask based at least in part on the determined phase difference, wherein the PN mask is used to adjust the phase of the PN sequence by a particular amount determined by a value of the PN mask; and

generating the PN sequence with the new phase based at least in part on the selected PN mask.

3. (Original) The method of claim 2, further comprising:

Appl. No. 09/919,685

Amdt. dated 10/27/04

Reply to Office Action of 8/12/04

PATENT

Docket: 000468

partitioning the determined phase difference into a coarse phase adjustment and a fine phase adjustment, and wherein the PN mask is selected based at least in part on the coarse phase adjustment.

4. (Original) The method of claim 3, wherein the coarse phase adjustment is in increments of 64 PN chips.

5. (Original) The method of claim 3, further comprising:
adjusting the phase of the PN sequence by the fine phase adjustment.

6. (Original) The method of claim 5, wherein the adjusting is achieved by slewing the PN sequence one PN chip at a time.

7. (Original) The method of claim 2, further comprising:
defining a search window to be used for the new search, wherein the search window comprises a range of PN phases to be searched, and wherein the new PN phase is dependent on values for one or more parameters defining the search window.

8. (Original) The method of claim 7, wherein the new PN phase is dependent on a width of the search window.

9. (Original) The method of claim 7, wherein the new PN phase is dependent on an offset for the search window.

10. (Canceled)

11. (Original) The method of claim 2, further comprising:
generating a primary PN sequence with a PN generator having a linear sequential shift register (LSSR), and wherein the PN sequence with the new phase is generated by applying the selected PN mask to the primary PN sequence.

Appl. No. 09/919,685

Amdt. dated 10/27/04

Reply to Office Action of 8/12/04

PATENT

Docket: 000468

12. (Original) The method of claim 2, wherein the PN mask is selected from a plurality of possible PN masks.

13. (Original) The method of claim 12, wherein the plurality of possible PN masks are capable of providing PN sequences separated from each other by at most 64 PN chips.

14. (Currently Amended) ~~The method of claim 12,~~ A method of generating a pseudo-random number (PN) sequence used to search for a transmitted signal in a wireless communication system, comprising:

determining a current phase of the PN sequence;

determining a new phase for the PN sequence for a new search for the transmitted signal;

determining a difference between the new and current PN phases;

selecting a PN mask, from a plurality of possible PN masks, based at least in part on the determined phase difference and ~~wherein the PN mask is selected to minimize a distance between the new PN phase and the PN phase obtained with the selected PN mask;~~ and

generating the PN sequence with the new phase based at least in part on the selected PN mask.

15. (Original) The method of claim 2, wherein the communication system is a CDMA system.

16. (Original) The method of claim 15, wherein the CDMA system implements IS-95 or cdma2000 standard.

17. (Original) A method for searching for a pilot in a wireless communication system, comprising:

identifying a transmission source for the pilot to be searched;

determining a PN offset associated with the transmission source;

defining a search window to be used for a new search for the pilot, wherein the search window comprises a range of PN phases to be searched;

Appl. No. 09/919,685

Amdt. dated 10/27/04

Reply to Office Action of 8/12/04

PATENT

Docket: 000468

determining a phase adjustment for a pseudo-random number (PN) sequence to move the PN sequence from a current PN phase to a new PN phase, wherein the new PN phase is dependent on the PN offset associated with the transmission source and one or more parameter values for the search window;

selecting a PN mask based at least in part on the determined phase adjustment, wherein the PN mask is used to adjust the phase of the PN sequence by a particular amount determined by a value of the PN mask;

generating the PN sequence with the new phase based at least in part on the selected PN mask; and

processing a received signal with the generated PN sequence to search for the pilot.

18. (Original) The method of claim 17, wherein the search for the pilot is performed for a plurality of search windows and wherein a PN mask is selected for each search window.

19. (Original) The method of claim 17, further comprising:

partitioning the determined phase adjustment into a coarse phase adjustment and a fine phase adjustment, wherein the PN mask is selected based at least in part on the coarse phase adjustment.

20. (Original) The method of claim 19, further comprising:

adjusting the phase of the PN sequence one or more PN chips at a time to move the phase of the PN sequence by the fine phase adjustment.

21. (Currently Amended) A receiver unit in a wireless communication system, comprising:

a controller operative to determine a pseudo-random number (PN) generator operative to offset associated with a transmission source, to determine a current phase of a PN sequence used to search for a pilot from the transmission source, and to determine a new phase for the PN sequence where-for a new search for the pilot is to be started, and to determine a difference between the new and current PN phases, the new PN phase being dependent on the PN offset associated with the transmission source; and

a PN generator operative to receive a PN mask indicative of selected based at least in part on the determined phase difference, wherein the PN mask is used to adjust the phase of the PN sequence by a particular amount determined by a value of the PN mask, and to generate the PN sequence with the new phase based at least in part on the received PN mask.

22. (Original) The receiver unit of claim 21, further comprising:
a searcher element coupled to the PN generator and operative to receive and correlate data samples for a received signal with the generated PN sequence to provide a correlated value used to detect the pilot.

23. (Currently Amended) The receiver unit of claim 22, ~~further comprising: a wherein~~ the controller is further operative to direct the PN generator and the searcher element to search for the pilot within a particular search window representative of a range of PN phases.

24. (Original) The receiver unit of claim 23, wherein the controller is further operative to select the received PN mask is selected from a plurality of possible PN masks, and wherein the plurality of possible PN masks are capable of providing PN sequences separated from each other by at most 64 PN chips.

25. (New) The receiver unit of claim 21, wherein the controller is further operative to partition the phase difference into a coarse phase adjustment and a fine phase adjustment and to select the PN mask based at least in part on the coarse phase adjustment.

26. (New) The receiver unit of claim 25, wherein the PN generator is further operative to adjust the phase of the PN sequence by the fine phase adjustment.

27. (New) An apparatus in a wireless communication system, comprising:
means for determining a pseudo-random number (PN) offset associated with a transmission source;
means for determining a current phase of a PN sequence;

Appl. No. 09/919,685

Amdt. dated 10/27/04

Reply to Office Action of 8/12/04

PATENT
Docket: 000468

means for determining a new phase for the PN sequence for a new search for a pilot from the transmission source, the new PN phase being dependent on the PN offset associated with the transmission source;

means for determining a difference between the new PN phase and the current PN phase;

means for selecting a PN mask based at least in part on the phase difference; and

means for generating the PN sequence with the new phase based at least in part on the PN mask.

28. (New) The apparatus of claim 27, further comprising:

means for partitioning the phase difference into a coarse phase adjustment and a fine phase adjustment, and wherein the PN mask is selected further based on the coarse phase adjustment.

29. (New) The apparatus of claim 28, further comprising:

means for adjusting the phase of the PN sequence by the fine phase adjustment.

30. (New) The apparatus of claim 27, further comprising:

means for defining a search window to be used for the new search, wherein the new PN phase is dependent on values for one or more parameters defining the search window.